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## STORY OF THE MOSS HOLE.

STRANGERS travelling through Scotland will scarcely fail to be told of what wonderful things have been done during the last hundred years in the way of draining and improving land—the latest of these operations on a gigantic scale being those of the Duke of Sutherland. What has been done one way and another has, in a sense, made the country, which is now a very different thing from what it was in the days of Dr Johnson. The mountains, to be sure, are there as of old, and so are the rivers, but even the hills are changed in general aspect, for they are either clothed or environed with plantations, or they have been inclosed as pasturages. As for the rivers, their course has been cleared, and in many places lined with embankments, to prevent overflow in the case of floods. The most marvellous of all the changes, however, are those effected on the valleys and plains. Beautifully laid out fields, divided by hedgerows or stone dikes, and brought to the highest pitch of agricultural productiveness, have superseded open moors, morasses, and pools of water.

How has all this been accomplished? It has been effected mainly by the outlay of large sums of money by the land-proprietors. Intelligence and skill have of course been the presiding agents. The improvement of land has been a fashion, a pride, we might almost say a craze, a mania. Naturally enough, the great land-owners, who belong to the peerage, have done most. And next to them as improvers may be ranked men, or the immediate descendants of men, who made fortunes by some species of mercantile enterprise, and took their place among the landed gentry. Old families with but a limited rent-roll, and some style to keep up, but nothing derived from any profession, are, of course, able to do little. You know their estates, as they cast up here and there, by the shabby palings for fences, the downcast old manor-house let in summer to strangers for country lodgings, the dismal half-grown-up ponds and ancient water-courses, superseded a century ago, and still remaining a melancholy token of

impoverished gentility. But these antiquated-looking spots are exceptional and disappearing. The general rule is active local improvement along with a profuse dispersal of money. From wealth-producing Lanarkshire, from Edinburgh and other centres of industry, from India and Australia have poured forth purchasers of estates, on which they have set to work, expending fortunes in reclaiming, planting, and ornamenting grounds, also in building picturesque mansions, till the result has become what we see before our eyes.

It is but justice to say that in all cases the land-owners of every degree could have done very little unless for the powerful support of an intelligent, discreet, and well-to-do body of tenant-farmers. It would have been of no use expending capital on land to be let to men who were devoid of means to work it on a liberal and remunerative scale. The old and poorer class of tenants being gradually weeded out, there arise men of substance as tenants, and who, as regards tastes and habits, differ little from the owners of the soil. Of course, these tenants look to their own interest. What they put into the land they expect to get back with a reasonable overplus in the course of their lease, and the expectation is usually realised. Fortunate men they must be considered! Houses in a good style built for them and their servants. Everything put for them in an excellent condition, while the numerous outlays incurred on their account by the landlord, often sweep away all the rent that is got for years. The mania for buying estates under obligations of this nature is certainly very curious. For the mere honour of the thing—that of being land-owners, and numbered accordingly among the 'upper ten'—fortunes are sunk on land, yielding for the most part not two per cent.; and as often, when rates and expenses are included, not one per cent., if anything at all. Happy land, where there is so much patriotic expenditure!

We propose to tell a little story about land improvement, which may be called the Story of the Moss Hole. It is a narrative illustrating the manner in which landed gentlemen in Scotland

have often been obliged by force of circumstances to put their hand in their pocket to effect objects which were of about as much concern to the public as to themselves. We advisedly say to the public, because any costly operation in removing eyesores from a landscape, at the same time improving climate, is a matter of public importance. All drainers from the Duke of Sutherland downwards, while perhaps looking chiefly to their own tastes and immediate interests, may be viewed somewhat in the light of public benefactors.

The Moss Hole was a hideous-looking though not extensive morass on an estate having a mile or two of boundary on the Tweed to the south. The morass was situated in the hollow of a field not far from the river. In shape, it was a parallelogram, ninety-six yards long, and twelve yards across. On the surface grew coarse grass and rushes. Beneath, there was dark moss, and pools of water were seen at various spots. The water was known to be the domicile and breeding-place of thousands of frogs, which at certain seasons went forth to recreate themselves in the neighbouring fields and ditches. The water being semi-stagnant, was the source of a kind of malaria. From it, in certain meteorological conditions—as, for instance, in cold evenings succeeding a warm day, or in sudden morning chills—there arose low creeping mists, which hovered about until dispelled by the rays of the sun. The only outlet to the water in the morass was by a small run, which, getting into a ditch by the roadside, slowly trickled to the Tweed, by means of a culvert below the railway.

No one could give any information regarding the history of the Moss Hole, as it was popularly named. For what anybody knew, it might have existed since the beginning of the world. Each successive proprietor of the lands had in his turn been an improver, but all had successively refrained from meddling with the Moss Hole. They let it alone, as something too sacred and serious to tackle with. So there it was, always as stagnant, and always as full of frogs as ever. From its shape and position it almost cut the field in two, and consequently it offered an interruption to ploughing and other operations; yet, as its eradication would possibly have added but slightly to the estimated annual rent of the farm, any inconvenience from it was endured. There are eyesores and nuisances, however, not to be tolerated on the score of cost of removal, or what money will be directly made by getting rid of them. If considerations of that kind had prevailed, alas for the sanitary improvement or beautification of the country! The market-value of most landed estates does not depend on the actual return in shape of rental—that indeed, as already said, being often very small—but on the attractiveness and other generally recommendable qualities of the property. Yet, with a knowledge of this fact the successive proprietors of the land in question let the Moss Hole in all its hideousness continue to exist, and to all appearance it was destined to be a local annoyance till the end of time.

When the present proprietor entered into possession a number of years ago, he viewed the Moss Hole with disgust, and resolved on its extirpation as soon as some more clamant improvements and ornamentations were effected. There was a farm-

stead to be modernised at a heavy cost. New cottages for labourers had to be built. Much planting for the sake of shelter had to be done. Roads and footpaths had to be laid out in a creditable style. Fences had to be repaired. An artificially irrigated meadow, the whim of a previous proprietor, had to be made into dry land, as it caused ague and bred hosts of black slugs, which nauseously crawled about in all directions. These and a number of other things, calling unitedly for an outlay amounting to five figures, required to be got out of hand. In short, no proper opportunity occurred for attacking the Moss Hole until the summer of 1876, when the surrounding field was in grass, and when a new tenant-farmer could be dealt with. It was agreed by mutual contract that the proprietor should be at the expense of draining the Moss Hole, and that the tenant should only do the drivings of material with horses and carts, from an adjoining knoll, to fill up the morass. When finished, the land, without any additional charge, was to be part of the available surface of the farm. It was a simple arrangement, convenient and beneficial to both parties. The tenant-farmer would have a benefit, whatever that was, of nineteen years' occupancy, incidental to the improvement. The landlord would have his property permanently improved. We mention this as a common method of improving lands in Scotland. The proprietor lays out the money; the tenant, in view of his nineteen years' occupancy, recoups himself for the temporary use of his carts and horses; such use being, as far as possible, at a season convenient to himself.

The project for extinguishing the Moss Hole getting wind, a considerable sensation was created in the neighbourhood. There were dreadful auguries as to what would ensue. 'The Moss Hole is of tremendous depth. No proprietor has ever dared to meddle with it. Any one who ventures into it will be drowned. Its bottom is far below the level of the Tweed, and any attempt at its drainage is out of the question. The cost of filling it up, if it ever can be filled, will be immense. It is not very nice to look at, but it would be much better to leave it alone. It does no harm to anybody. What signify the few paddocks that come out of it? Naebody cares a pin-head about paddocks. They are innocent creatures, loup, loup about.' Such were the dismal and grotesque prognostications on the subject. As an old habitué, the Moss Hole was to a certain extent venerated. As a waif and stray, which neither landlord nor tenant looked after, it furnished (at some trouble, but that was nothing) crops of rushes and rough grass, to be dried as bedding for pig-sties, and so far it was a popular institution.

Well, the terrible day arrives when the Moss Hole is to be attacked. The first thing done is to ascertain its actual depth. There, close on the margin, stand some labourers with their pickaxes and shovels, ready for anything. The superintendent of works speaking in a quiet way to the longest-legged and presumably the most skilled of the men employed, says: 'Robert, I think it would not be a bad plan for you to walk right through the Hole from end to end, and crosswise back and forward, with a good long stick in your hand, to find out how deep it is.' A neat suggestion this: to walk into a renownedly bottomless

pit. It was almost as bad as asking a man to lead the forlorn-hope, and run a hundred chances to one of being shot. Robert, an experienced hand, as joyous as if going to a wedding, fears nothing. Without a moment's hesitation, he heroically plunges into the Hole—stockings, shoes, trousers, and all. The plan adopted to discover the depth was not perfectly scientific, but it answered quite as well as the most learned device that could have been fallen upon. Poking about, Robert keeps his footing, sometimes up to the knees, sometimes up nearly to the waist. With his stick he accurately ascertains the various depths, and if of any use, he could have drawn up a chart of the soundings. It was sufficient to know that the morass was at most only from three to four feet deep. This settled the question as regards the possibility of drainage.

Country people know little of the theodolite. To calculate levels, they ordinarily use what they call boring-rods; these are sticks with a cross-piece along the top like the letter T, over which, from point to point, they look with one eye shut in a knowing sort of way, and by this rough and ready contrivance—which we have no doubt is of vast antiquity—they will engineer a gradient to a nicety. The boring-rods, aided by a spirit-level, were in constant requisition for the Moss Hole. It was conclusively discovered that from the lowest point in the morass there would be an outfall of twenty-four inches to the culvert adjoining the Tweed. That was good news. The Moss Hole stood condemned as an impostor. Its doom was sealed.

All was now plain sailing. Operations were commenced by excavating a sufficient drain from the outlet to the culvert underneath the railway. In this preliminary part of the business there was hard work, but no sort of difficulty. After excavating the required depth, and allowing for a gradual fall, the cutting was laid with glazed tile-pipes nine inches in diameter, cemented together with Portland cement, so as to form a continuous water-tight tube. When completed, the length of this spacious tubular drain was a hundred and six yards. The water ran through it in a copious stream. Then ensued the active operations on the morass. A drain was cut along its southern side from end to end, and several tributary drains were cut diagonally crosswise. This was the nastiest part of the undertaking. The workmen stood in water with feet and legs constantly wet. There they were hacking away at the black moss to make clear runs for the water, which poured out on all sides. There was this satisfaction, that the more they cut into the moss there was the less water to run out, until at length no part was undrained. The moss, like heavy black mould, was wheeled in barrows to the side.

It was interesting to note that in proportion as the water was drawn off, the top of the morass sunk, until one could walk on it with a firm footing. In the various operations, it was not pleasant to observe the discomposure of the colonies of frogs, which never could have contemplated so rude and sudden an invasion of their ancient domain. Sprawling about, a few got away, but the greater number perished as victims of a relentless act of rural improvement. 'Play to you, but death to us,' as was said by the frogs in the fable. Two or three eels were secured,

which duly figured at table in the 'Big House,' as 'Stewed eels à la sauce Matelotte'—as delicate a dish as could be presented to a Parisian gourmet.

In laying bare the foundation of the morass, no objects of antiquarian interest were discovered. No one could squeeze a bit of romance out of it. The hollow had simply been a convenient receptacle for field-drainage and rubbish. The laying down of common drain-tiles, four inches in diameter, throughout the several runs, in connection with the great tubular drain, concluded the artistic part of the process. Rough stones were packed well in, to allow the free percolation of water to the drains. Nothing remained but to bring up the surface to the level of the field. This was accomplished in the first place by pouring in upwards of a thousand cart-loads of stones and gravel. Next by wheeling in with barrows the mossy material that had been laid aside, mixed with quantities of coarse sand, to give a proper consistency to the soil. In adjusting the surface, it was made to piece in with the slope in the field. The job was at an end; and much merit is due to all who with little regard to their own comfort, helped to complete the undertaking. After a few years' culture, the spot will be scarcely distinguishable; as is thought it will be exceedingly fertile. The cost of excavation, drain-pipes, and other items of outlay, with workmen's wages, altogether amounted to less than forty pounds, a sum considerably below what was anticipated. Had it been much more it would have been well-spent money. To say nothing of the improvement in climate, a blemish has for ever been removed from one of the fairest scenes on Tweedside.

Such is a little bit of specimen of the way in which Scotland, as we now see it, has been made. And many a landed gentleman, thinking of his numerous outlays, would add, with a half-humorous half-pensive shake of the head: 'THAT'S HOW THE MONEY GOES.'

W. C.

## THE ARAB WIFE.

A TALE OF THE POLYNESIAN SEAS.

### CHAPTER XIII.—HOME.

ACCORDING to my imperfect knowledge of the science of navigation, and by calculating the turns and twists we had made, and allowing for the currents, I concluded that the pirogue could not be very far from the English settlements in West Australia. The shore trends inward considerably to the south, and as I had kept well out to sea, we were quite a hundred miles to the westward, and had to make much more distance than I supposed, so that instead of making the land at noon, it was near midnight before I caught the first glimpse of it in the moonlight. It was right ahead. I ran down for the charts, lit a lamp, and began to study our whereabouts, whilst Fatima without a word went up to the wheel.

After puzzling my brains for some time, I at length realised that we were considerably south of Perth, where I intended to arrive; and that the bold headland on the starboard bow must be Point Naturaliste. As this was evidently so beyond a doubt, by the peculiar configuration of the coast, which here makes a right angle, it was equally plain that we must stand again to the south, make a bold turn eastward, and then run in to

Augusta. There was not much time to lose, as at midnight Bikur would come to take the wheel; so I went on deck and stood clear out to sea again; and by the half-hour that elapsed before the negro came up, the land in rear of us was the merest speck, almost imperceptible to negro eyes, more especially as Bikur looked for it steadily in the wrong direction.

When I relieved him in the morning, we tacked dead to eastward, and ran so for an entire day, sighting various coasters, which surprised Bikur much. We were too far off to distinguish the crews, so that he remained ignorant of their being white men's vessels. But he pondered something greatly all day long, and Fatima and I agreed to watch our sable friends narrowly. After running considerably to eastward, I commenced a series of tacks in the supposed direction of Augusta, and as it is a city set upon a hill, had little difficulty in making it. Then Fatima got Yarifa to come and see the land, after which we closed the hatch, and ordered both the negroes to remain on deck. The numerous schooners and sloops, and occasional small steamers, which were either coming in or going out of the port, convinced them that we had arrived at some great city; but they saw clearly that we had deceived them, and had sailed to the white man's country. My feelings of rapture would be hard to describe, and I know that I hailed every vessel that came near, from the delight I had in hearing the hearty English words from my own countrymen. There are French settlements north of Augusta, and German villages east of it; but the immediate vicinity is populated, as is the city itself, exclusively by English people from the southern counties; so to hear them speak was just like being at home. Tears rolled down my cheeks, and Fatima softly pressed my hand, as if to tell me that she sympathised with me, and was as happy as I.

The wind chopped round to the westward, and favoured the pirogue, which moved like a thing of life through the placid waters of the broad harbour, sparkling with the sails of hundreds of small craft. Soon we came abreast of the city, and anchored within five hundred feet of the principal block. Then I called Yarifa and Bikur, whose curiosity had greatly overcome their feelings of surprise, and told them both that they were free either to go with us or to stay in the city where we had arrived, or to go elsewhere, as suited themselves; but they were no longer slaves, for the country in which we had arrived was one where there were no slaves, but all men were free. They both elected to follow us, and made many protestations of affection and fidelity, which time has proved to be sincere.

Having arranged that Fatima and Yarifa should stay on board, Bikur and I got into the sampan and paddled to the shore. Our Arab dresses were so conspicuous that I felt a little alarmed about the attention I might receive from the street boys; but on landing I was agreeably disappointed. We indeed were followed; but the juveniles thought we were members of some outlandish inland tribe, and refrained from any unpleasant demonstrations of regard. Meeting a mounted policeman, who had all the manner and bearing of an old cavalry-man, I asked him where I might find some official, the captain of police, the sheriff or governor, or something of that sort. He gave me the

address of the captain of police, whose name was the same as my own, and I hastened there at once. I found quite a genial soldierly man, who was a distant relative of my father's, and had known Uncle Joe perfectly well. I explained to him my position, and recited enough of my adventures to excite his warm sympathy. He immediately offered us rooms in his own house, and insisted on my taking some of his clothes, which I was glad to do. The metamorphosis was soon completed; and I borrowed his carriage, driving down to the jetty with the captain's servant, and engaging a stout six-oared boat, which soon took me to the pirogue. Taking with us Fatima and Yarifa, together with the most valuable of our treasures, we hastened back, and were soon in my cousin's hospitable home.

Mrs Wade took charge in the kindest manner of Fatima, and soon fitted her out with the dresses and toilet articles of European fair. The transformation was complete. Never had Fatima seemed more beautiful; and I viewed with secret complacency the ease with which she adapted herself to European customs, and the innate grace and good-breeding which excused her blunders. But when on the next day I was obliged to inform Mrs Wade that we had so far been united only by the Arab teacher, she immediately proposed that Fatima should be baptised, and insisted in the most obliging manner upon serving as her god-mother. This brought about a confession from me that I stood in need of the same good offices, having become renegade; and it was mutually agreed that we should both be baptised, and then married again according to the Episcopal Church of England. The report of our adventures soon got wind, and I cautioned Fatima to say nothing about the casket or our other treasures, as it might make the captain's house a special object of regard to the ticket-of-leave men who find their way to this settlement from the penal ones. Our blacks, knowing no English, could not betray us, and their stories would naturally be so marvellous that nobody would credit them even if they could have spoken like natives. But even without a knowledge of our jewels, or of the crisp contents of the Dutchman's desk, we were exceedingly interesting to the townspeople of Augusta; and the governor called upon us, and insisted upon being god-father for my Fatima, his wife and Mrs Wade being her god-mothers. This is according to the ideas prevalent in the colonies, where a boy has a god-mother and two god-fathers, and a girl the converse.

The appointed day came at length, and we were admitted into the bosom of the Church in the presence of all the leading families of Augusta. We were thus re-united in the afternoon of the same day; and I folded to my arms the blushing Mrs Wade, Isabella now, instead of Fatima. There was a grand feast in the evening at the governor's house, and my wife in white satin was the admired of every one. But the rubies which she wore on that occasion were so far beyond anything that had ever been seen in Australia, that I am afraid some people of questionable taste paid more attention to them than to the wearer, who, in the wedding-dress of a European, must have been an object of envy to many a fair lady present.

We remained for some weeks at the governor's house, and then at his suggestion sailed in our own



pirogue, which—in addition to the faithful couple who had been companions of our wanderings, and whom we decided upon taking with us to England—was now manned by a stout crew of good seamen. Our friends in Augusta were so obliging as to express great regret at our leaving; but the natural impatience of a son to see his father was sufficient excuse, and we departed for Port Phillip laden with a thousand good wishes, and delicacies of every description. We reached the Port without obstacle or adventure, and were soon whirled with all our belongings to Melbourne. I had preserved a faint sort of a hope that I might find my father there; but on consulting with the lawyer who had managed his affairs, I learned, to my sorrow, that he had sailed for England, to take measures for finding me through government authority; and taking with him poor Uncle Joe's fortune to the enormous amount of six hundred thousand pounds. I then inquired for Captain Orde, and was delighted to hear that the *Shooting Star* happened then to be in the harbour, and the honest Yankee captain at the Auckland Hotel.

Thither I repaired in all haste, and found the good fellow, who at first did not recognise me; but who, when I made myself known, fell upon me with the gripe of a bear, and hugging me in his arms fairly wept aloud. I was greatly moved by this display of affection in one so apparently cynical, and I think there was water in my own eyes. He accompanied me to the Victoria, where we had put up, and I introduced him to my wife, whom he pronounced to be the finest creature he had ever beheld, without even the exception of the Boston belle to whom he had once paid obeisance. I narrated my adventures at full length, as he consented to pass the day with us, and was sincerely thankful to him for the sympathy he shewed. For a cool business man, with a slow methodical deliberative manner, he was the most feeling man I ever met; and I must say that Americans generally are of this type. When I had concluded, he made me repeat parts over and over again, and at length volunteered to send, or himself carry an account of our whereabouts and welfare, to the Reis.

He also volunteered to restore the pirogue, minus its crew, to the Nizam if I chose so to dispose of my now no longer serviceable little bark. To this, fearing for his safety, I at first demurred, but finding that expostulations were in vain, I at length assented. 'I am not afraid,' said he, 'to meet the Nizam, and feel quite able to run the risk; but,' he added, 'my good young fellow, you get off to England as fast as you can, and comfort your father's heart. He knows you are not dead, and has gone to interest the government in your release.'

To offer money to this noble-hearted American captain would have been insulting; so a happy thought occurred to me—a tangible way of shewing my appreciation of his courage and generosity. Selecting one of the jewels given to me by my father, and which I had been fortunate enough to preserve through all my wanderings, I got my darling wife to press it upon the skipper. 'Dear friends,' faltered he, 'I shall wear this for your sakes, and for the sake of my gallant old friend, whom I may never see again.'

So bidding our adieus, I sailed with Mrs Isabella

Wade and our two attendants for old England, in one of the great clipper liners. *The Golden Fleecce* was a huge vessel of four thousand tons, and we had a grand cabin; but we both agreed that the little cabin of the pirogue was more pleasant. However, on rounding Cape Horn we admitted that perhaps it was more comfortable in *The Golden Fleecce*. Our trip to England was just the same as other trips. My wife improved so greatly in European ways that before we arrived at Southampton one could hardly suppose that she was not European; her skin was so very fair that she would easily be taken for a brunette English girl.

Arrived at length in London, we went to the only hotel I knew, Long's; and leaving Isabella to her own devices, and our two servants in special charge of the landlady, I set off in quest of our army agents, who directed me to the Hummums Hotel, Covent Garden. It is a famous place for old Indian officers.

Returning to Long's, I ordered a carriage, and desired Isabella to put on her bonnet, which she had learned to wear with perfect grace. We were soon together in the carriage and rolling off to the Hummums. I sent up to the colonel's rooms to say that a gentleman and lady wished to see Colonel Wade; and he sent back word that he was unwell, but would be happy to see the persons if they were intimate friends. We went up; and in another moment I was clasped in the dear old gentleman's arms. My wife had her turn of embraces; and over the happiness that followed and that has continued to be our lot, I discreetly drop a veil.

[Although we have given the foregoing narrative very much in the words of the writer, we would take exception to his having seen either deer or monkeys in Australia, neither of these tribes being indigenous to that country. The kangaroo is a native; and the 'large kind of rabbit' and 'miniature kangaroos' were doubtless marsupial animals allied to the bandicoot.—Ed.]

## WINTER VEGETATION.

THE animal world is keenly sensible of the approach of winter, a season during which many creatures take a long sleep. The mole retires to her nest; the dormouse, having laid in store for bad weather, comfortably settles herself in a cosy nook of a dry old tree; squirrels and field-mice shut themselves in with their friends, only venturing out occasionally when the sun may shine with unusual fitful brightness; frogs sink to the bottom of ponds and ditches, and bury themselves in the mud; lizards, badgers, and hedgehogs creep into holes in the earth, and remain torpid till the spring; bats get into old barns, caves, and deserted buildings, where, suspending themselves by their hind-feet, and covering themselves in the membranes of their fore-feet, they sleep away in a sort of natural hammock till the green leaves come again.

Vegetation sympathises with the general repose, and we confess to a feeling of tender melancholy at this season of the year. The conditions of growth are suspended during the winter months in all our large trees, and the leaves drop off, because

their wants are no longer supplied by their parent tree. The autumnal tints, which are so beautiful in many places, are due to the oxidation of the green colouring matter in the leaf, which is developed under the strong light and sunshine of the summer. When the functions of the leaves can no longer be performed, from the absence of nutrition and the withdrawal of light from their surface, their tissues become choked, and they dry up, wither, and fall off. At the point of union, however, where the leaf-stem was fixed to the branch, Nature has already begun to prepare for future life; and the little nodule, which can easily be seen where the faded leaf once flourished, contains the embryo future glory of the forest.

The life of all plants—in fact of all living bodies—may be said to consist of a rotation of matter; some of the matter which exists in the living organism to-day will have passed away to-morrow, and a new portion will be formed by the appropriation of fresh material from without. In a very short time the whole organism will have parted with all its original substance, and the individual will consist of entirely new elements. This rotation of matter constitutes life; and when the mystic wheel ceases to revolve, death ensues—to the individual, though not to the family. The processes of life are more vigorous and active in the higher forms of vegetable life than in the lower; hence our forest trees require light and warmth to evolve their vital forces, and to carry on their functions; when these are withdrawn, all their powers are quiescent, dormant as it were, till the return of spring.

Those whose attention has been directed to the operations of Nature find deep sources of interest even in the winter repose of vegetation. Even in the dreariest period of this condition the horse-chestnut tree is easily distinguished by its large nut-like buds, which characterise it when its leaves are all faded and gone. There they are, on its thick and heavy branches, covered with a shiny coat of sticky gum-resin, which protects the tender interior from injury by cold or wet. When, as the year advances and the sun gains power, this gummy coating melts under its influence, the tender leaves it sheltered begin to expand and very soon attain maturity. But if in our winter walks we pluck one of these shiny varnished buds and examine it, we find matter for thought and study. Cut perpendicularly through this bud with a sharp pocket-knife, and then we see, closely packed and well protected by a series of outer scales covered with varnish, the rudimentary leaves which are to clothe the tree next year. The scales are arranged over one another in the manner of the tiles of a house. In the centre of the bud is situated the tender vital growing-point, which would be injured by the least frost, and is thus kept warm and well protected by its surrounding covering. But lest this should not be sufficient to secure the safety of this vital point, a substance similar to wool is developed in the cavity of the bud, in which the infantine leaves and the precious centre-point are tenderly wrapped. All this may be seen and explained to the youngest child in the course of a winter morning's walk.

We cannot hide from ourselves that the enchantment of a country lane is gone in a great measure with the past summer. The red berries are seen on the bushes where so short a time since we pulled sweet dog-roses, gathered fragrant honeysuckles, or filled our baskets with the purple blackberry. But whilst basking ourselves in the summer sun and recklessly pulling luxuriant and verdant garlands from the hedges, we forgot to look on the bank beneath the hedge, or to cast an eye on the old gnarled trunks and branches of the trees, then laden with delicious foliage. The soft and verdant mosses were hidden then by the long grass; the curious and beautiful lichens and fungi had not as yet appeared to any advantage in their favourite nooks and corners; or only blended in their varied shades of colour with the mass of beautiful vegetation by which we were then surrounded.

Now that the hedges are no longer green, and the trees stand black and bare on the landscape, is the time to seek for endless variety, and beauty waiting to be admired in its turn. What miniature fairy glens and grottos are distributed over the hedge-banks of our country lanes! Mosses, delicate and beautiful, may be found in the interstices of any old wall, or at the foot of almost any tree or shrub. The bole of an old tree is luxuriant with them, for they seem anxious to cover with soft green tapestry the rough bark, knotted and marked by time. It is in the winter-time that most mosses and lichens are found in fruit, and beautiful objects they are. A pocket microscope lens is essential for their proper observation, and though the delicate carmine cups of the species known as the cup moss, and the familiar gray and yellow mosaic appearance we see on twigs and branches on our way are easily recognised, the study of this form of winter vegetation is an inexhaustible one, and is an occupation for a lifetime, if earnestly pursued. We do not, however, suggest that every one who endeavours to recognise the different species of moss, lichens, or fungi should necessarily do so through the medium of the microscope; but it will greatly add to the pleasure of making a collection out of doors if there be a good microscope at home, so that when the contents of the basket be turned out after the winter's walk, there should be interest even in the fragments left after a little pile of varied bits has been constructed, rivalling the choicest summer bouquet in beauty of form and colour. We have seen such a collection formed into a beautiful object by raising a little mound of rough bits of bark in a plate or saucer, and placing on it varieties of fungus of every shade of red, brown, yellow, and gray. They seem to spring forth from a bed of sphagnum or bog-moss of brightest emerald green; while a clump of the screw wall moss in fruit, with its curious little box-like capsules, supports a gray or yellow lichen, which has been gently removed from some old wall or tree. A bit of stick or a twig incrustated with a bright orange-coloured lichen, supports a trailing branch of delicate green ivy, the most beautiful and adaptable of all winter foliage. Over this little arrangement is placed a bell-glass, to preserve it from dust and the effect of a dry atmosphere; and we know how pleasing to the eye is its varied beauty of form and colour, lasting thus, a constant source of pleasure, for many a day without renewal.

On their native banks, the soft green velvety mosses form dense masses. Looking with a magnifier into their luscious green, it seems like the entanglement of a deep forest with its recesses of gloom and shade. Many of the species give in their little outlines the perfect figure of a tree—the branches spreading umbrageously from a tall bare stem, and losing themselves among the foliage, as if it were a chestnut or an ash instead of a moss. It is curious to see sprays of some species in which the characteristic green is richly tinted with gold; and often may these lovely forms be found on the surfaces of stones and rocks, and on the barks of aged trees, where the surface is moist—the frost-flowers of the window-panes transferred, as it were, to the country, and endowed with verdant life. These are the little plants that form on the prostrate trunk, green and swelling cushions and natural sofas, that, as Mr Ruskin tells us, ‘full of pity, cover the scarred ruin with a strange and tender humour.’ Under favourable circumstances, they form a compact mass, which may be lifted up and removed like a carpet from a floor, bringing with it a thousand little fruit-stalks.

Another set, represented by the genus *Sphagnum*, is characteristic of swamps and morasses. Vast tracts of such country are covered with this sort of vegetation where nothing else will grow. Lichens, on the contrary, are seldom found in damp places, but grow chiefly on old dry wood and on rocks and stones. *Parmelias* of all kinds seat themselves on old churchyard monuments, on the ruins of abbeys and castles, their bright yellow eccentric patches contrasting finely with the covering of ivy around. Others cling to the branches of trees, and hang from them, gray and shaggy, like an old man's beard, to the depth of many inches, or even feet. These are often improperly called ‘tree mosses.’ We read in *Evangeline* of the ‘forest primeval, the murmuring pines, and the hemlocks

Blended with moss and in garments green, indistinct in the twilight,

Stand like Druids of old with voices sad and prophetic,

Stand like harpers hoar with beards that rest on their bosoms.’

Independent of seasons, when other plants are gone to rest or decay, the diversified hues and forms of this curious lichen family ‘make glad the solitary place,’ and beguile the winter's walk of its dreariness.

Whilst in their youngest and undeveloped state, lichens often appear as a mere powdery or scurfy wash on the branches of trees, palings, &c., and at one time were believed to be distinct species, and classified accordingly. Green is a very rare colour amongst lichens; they are chiefly gray, white, or yellow; and the fact of being green, usually suggests that the specimen is a moss, and not a lichen. The fructification of lichens is usually seen in the form of minute saucers or of tiny shields, which are not always circular, but vary in shape, and are called *apothecia*. The tiny ‘letter lichens’ which inhabit the smooth bark of trees, especially that of young beeches, resemble inscriptions in Hebrew or Arabic. We might almost fancy in the depths of the unfrequented forest that we had come upon the literature of the Dryads, or that the ‘good people’ had been at work.

Of the endless variety of fungi—mushrooms

or toadstools—which grow almost everywhere, Dr Badham writes: ‘What geometry shall define their ever-varying shapes? Who but a Venetian painter do justice to their colours? Some are stilted on a high leg; others have not a leg to stand on; some are bell-shaped; many shell-shaped; some like a lawyer's wig; others like a horse's hoof or a goat's beard. In one you look into the fungus through a thick red trellis that surrounds it. Some exhibit a nest in which they rear their young; and not to speak of those vague shapes,

If shape they can be called that shape have none  
Determinate,

of such tree parasites as are fain to mould themselves at the will of their entertainer (the fate of parasites whether under oak or mahogany), mention may be made of two, of which the forms are at once singular and constant; one exactly like an ear clings to several trees, and trembles when you touch it; and the other, which lolls out from the bark of chestnut trees, is so like a tongue in shape and general appearance, that in the days of enchanted trees you would not have cut it off on any account, lest the knight to whom it belonged should come to claim it of you.’

The greater proportion of fungi are autumnal; many are, however, in perfection in midwinter, and it is in the very early spring before the leaves appear on the trees that we find the beautiful crimson *Dryad's cup*, a circular basin of the richest carmine, of about an inch and a half in diameter. To the delight given him by this crimson cup, Fries the great fungologist attributes his first incitement to the study of this class of plants.

Occasionally in a mild winter we hear of a stray violet or primrose being found on some sunny bank; but whilst we may reasonably expect to find, in our winter rambles, botanical treasures and curiosities such as we have mentioned, we can well afford to wait till the spring for these lovely familiar friends, and spend our winter hours in making the acquaintance of fresh forms of vegetation. Two plants seem essentially connected with all our recollections of winter, and whilst thinking of winter vegetation we can never forget them. The evergreen holly and the mistletoe are in their glory at this time, associated with the ideas of winter merry-makings, family gatherings, and Christmas observances. At the season of the year when we see most of the holly, it is often in company with the mistletoe; and if our winter rambles take us through an orchard or into an apple-growing country, we are sure to see its pretty light green clusters, ornamented with its pearl-like berries, on the branch of some old apple-tree. Much has been written of the mistletoe and its habits, and observers tell us that it is so seldom seen on the oak, that its very rarity is thought to have given the oak-fed mistletoe peculiar sanctity in the days of the ancient Druids. Be this as it may, we may well exercise our love of discovery by keeping an eye on all the oak-trees in our winter's walks, with the hope of finding the mistletoe in its mystic position, as of old.

We venture to trust that the foregoing observations may tend to prove that even in winter, when all around seems to wear the aspect of desolation, there are objects well worth search by those who



will give themselves zealously to the task. Lowly though these lichens and mosses and fungi may appear to be, yet when examined with a keen spirit of inquiry, they will be found to reveal beauties hitherto concealed, and will repay the trouble of many a winter day's ramble. P. L.

## AN OLD MANUSCRIPT.

### CONCLUSION.

I CHANCED to be at work in the garden summer-house one afternoon, the weather being very fine, when, although it was scarcely our time of meeting, in came Mr Salkeld, and somewhat hesitatingly sat himself down beside me. He held a letter in his hand, which he desired me to read. It was a presentation of a living from an old college friend. I was both glad and sorry at the news, and so I told him. He was silent for a few moments, and he looked so strangely out of his wonted composure, that I began to fear that I had hurt his feelings by the manner of my congratulation; and just as I was about to allude to this, he turned and regarded me quite suddenly with a look in his eyes I had never noticed there before, a look that made me sink into myself, as it were. I almost instinctively felt what the tenor of his next words must be. They were these, and he spoke very solemnly, as a man speaks when his deepest feelings are moved. 'Miss Wilfrid,' he said, 'I thank you for your good wishes; but let me say, that much as I am devoted to the sacred profession in which I humbly strive to do my duty, there is yet another devotion which is also to me greatly sacred—love that is second only to the great devotion of my life. The new life that is opening to me would be cold indeed if, going there, I might not carry that human love with me. Carry it with me indeed I shall, but it rests with you to say whether I shall carry it in sorrow or in great joy.' Here his voice was solemn and beseeching almost to sadness, and I could not speak, for my heart was too full. Then I knew not how it was, but he had told me that he loved me so well that all else on earth had no comfort for him were I not by his side to sympathise, to aid him, and rejoice with him in all things.

I knew not what answer I gave him, but I was clasped in his arms, and all seemed confusion. I could neither think nor speak, and I was only aware of one wish—to be alone for a time, to collect my thoughts; but I left the summer-house leaning on Arthur Salkeld's arm as his affianced wife. We walked through the rose-garden into the house—he with a tender look of happiness on his face that has wrung from me since many a sigh of sorrow.

I went up-stairs to my room, the room that in my happy lightness of spirits I had named the Rose-chamber. The roses were nodding at the window as they had done that spring morning twelve months before. I sat down near them, and thought of the lark's song I had listened to in rapture that fresh May morning. Was I as happy as then? To be his wife—the man that of all others I respected and trusted—the beloved of all who knew him, rich or poor! I was perplexed; my brain was in a whirl. Thought after thought rose in me like wave on wave; but ever a sadness grew upon me that thought would not and could not

drown. Did I wish the event of the last half-hour undone? No! I would not, dared not, wish that. But something within me mysteriously whispered that all was not well. Had he been mistaken in his choice? I shuddered at the thought, and strove hard, so hard, to dispel it. Did I truly love him? Was I happy in that this great love of a good man had been bestowed upon me, so unworthy as I felt myself to be? 'O for the echo of that lark's song,' I said to myself, scarcely knowing that I did say so. But no echo of gladness seemed to come to me; but only still a sad, sad, yearning, anxious hunger of the heart that I could not understand. O blind, wickedly blind that I was! The years have gone since that day; and in those years how well have I known the meaning of that wistful heart-sickness which crushed every impulse of hope and joy in me with leaden force.

I did not go down-stairs all that evening, for I felt that I could not meet his earnest gentle looks, nor share in his deep tenderness as I ought. I sent down a plea of illness; and indeed it was no idle excuse. Miss Stanhope came to me with kind messages from the gentlemen, and words from Arthur Salkeld that went deeply to my heart.

The next day I was more composed, and I met his eager questions about my health with real gratitude. I then saw how wrong I had been to avoid his presence, for he had that influence over me which invariably soothed me, and led me into his own mood while I was with him. But after he had left me, the strange torturing thoughts would come: Had he done right? Was this for the happiness of both? And day after day it was always thus. I was even more with him than before our engagement; for we were formally engaged, with the free consent of Mr Stanhope, pending only my uncle's reply to a letter from Mr Salkeld.

But as the days became weeks, I grew more and more to look at the future with hope and calmness. An earnest longing now possessed me to keep him with me at my side always, for with him was peace—peace of mind. Therefore, I opposed no objection to his wish for an early marriage. He left for his new living just about the time that my uncle's letter arrived, consenting to the match; and it was then settled that in one month our wedding should take place at the village church. After he left me, I was lonely, and not quite as I had been, but not unhappy, for I felt that all had been for the best.

He was greatly missed in the village, and I strove to soften his absence to his flock by endeavouring to do as he had done amongst them. Every day, as I went here and there to the cottagers, I knew that I was doing his will, and I thereby found pleasure and contentment. But a crisis came that almost prostrated me to the lowest depths of despair. Oh, how shall I describe the terrible torture of that most unhappy time—the self-reproach—the self-abasement of it!

Mr Salkeld had left us about a fortnight. It was early in the month of June, and I remember (so well I remember every word and deed of that day) I had been to Selwyn Grange; and Effie and I had had a long, long talk about many things, about everything that had interest for ourselves and those about us. Amongst other subjects Effie talked much of her brother, who was expected home that very day. It was the



time of the great French alarm, and the dear girl was troubled lest danger should come to him, for the militia were under arms and about to march southwards in a few days. Hence this visit home, which was to be a very short one, she said. Then we also talked of my approaching marriage, and made over again the arrangements for the ceremony which we had arranged many times before. I told her how happy I was to have won the love of a man like Arthur Salkeld; but in saying so I had to crush again the rebellious promptings of my heart—the indefinable rebellion which was now so surely fading down, and soon, I hoped, to be forgotten as a sickly dream.

I thought it strange that the feeling should have asserted itself in speaking thus to her; but I conquered myself, and walked home in the dusk in a happier frame of mind than usual, for the discussion of the ceremonious trifles which Effie took such strong interest in always helped to soothe me and restore the balance of my mind. It was a calm sweet evening, and as I walked down the chestnut avenue I heard the faint sounds of the clatter of a horse's hoofs in the distance; but the sound conveyed no idea to me, and I walked on absorbed in my own thoughts. But when I left the avenue for the high-road, these sounds of hoofs came nearer and nearer, and just as I turned a corner of the road the horseman appeared in view. In spite of the deepening twilight, I knew him at once. It was Arthur Selwyn! My heart seemed to stop at the sight of him, he seemed to come so suddenly. The next moment it was beating wildly and frantically, for he had dismounted and taken me by the hand, looking in my face anxiously. Heaven help me, how I thrilled at the touch of his hand and the sound of his voice! I trembled like a leaf, and withdrew my hand from his, and answered him coldly that I had been harassed of late by many things.

He turned—leading his horse—and walked by my side, and I made no effort to prevent him from doing so, for one look at his altered face—the worn, melancholy look of it—made me long to say a word of sympathy to him, and I said to myself, to my self-deceiving heart: 'This marriage of his is making him miserable indeed.' We walked together in painful silence, for I could not put into words my half-formed resolution; they seemed to die on my lips. He himself, however, introduced the very subject of my thoughts, for he turned suddenly to me, and said in a hard, tuneless voice, so unlike the voice that spoke to me but a minute before; but the hardness of it brought me to myself. The words were these: 'You have heard of my approaching marriage, Miss Wilfrid, I suppose? My sister is very free with her communications where I am concerned.'

'Dear Effie has told me,' I replied; 'and your sister loves you well, Mr Selwyn. You should not speak so.'

He looked straight at me for a moment, and his head drooped. 'She is my dear, dear sister,' he said, and was again silent. Then he broke out suddenly: 'Miss Wilfrid, I am a most unhappy man. There is no happiness for me in this black, unlovely world—nothing but misery!'

'Do not say that, Mr Arthur; it is sadly wrong. God's providence has made the world beautiful to those who follow the path of duty in it, and trust in Him.'

'You are an angel. There is nothing but brightness on earth where you are,' he said. 'But I—I think they are trying to make a demon of me. If I never had been born, or had died a year ago, it would have been better for all who know me.' He said this in such a voice and with such a wild look that I trembled for him; and oh, how I pitied him! My heart seemed to melt within me. I said nothing.

Then he went on in the same wild strain: 'And who are they, that they should compel me to stifle my own heart and fling happiness from me? Is there no escape for me?'

I felt that I had no right to say anything to this, although he looked hard at me as he spoke, as if for a sign. I know not if my eyes revealed anything to him beyond what I felt of pity for him and deep sympathy, for had I not also suffered! But the next moment he stopped in his walk, and spoke to me words which from my memory shall never be effaced while the heart within me throbs and life endures. He said, and how deeply earnest was his voice then: 'There is one way of escape. Miss Wilfrid, you can save! O Rose! is it not perceptible to you? It is you I love! I shall go mad, I think! My darling! you, and you only, can save me! I am a doomed man else. I can't express myself as I should. You, I love; and you I have loved from the first.'

I felt as if I had been turned to stone; and then, and then the scales fell from my eyes. I read my own agonised heart—my heart, that almost broke to hear those wild passionate words. Oh, what I endured in one short-lived moment! The love that had been growing and yearning within my inmost heart seemed as though it would burst the bonds of life, so like a flood it came in one swift rush of realisation. Loved him! His love was as nothing to mine. I worshipped him! I could have died that he might be happy, if my poor life could have done so much for him. But the next instant came the awful revulsion of feeling. My burning heart became ice. It was too late! I felt that my senses were leaving me. I must have staggered backwards, I think, for he reached out his arms to me with a short sharp cry; but I shrank from him, and would have fled away, could I have done so. I sank backwards against his horse, and clutched the saddle with my hands tightly, till I forced my reeling senses in a moment back again. He placed his hand on mine—I felt it tremble—and in a low whisper, he said: 'Dearest Rose, be my wife; you love me; fly with me now. Let us leave this cold marriage behind us. In two hours we can be across the Borders, and then you are mine for ever.' His dark eager face bent over me; his hand clasped mine.

Oh, the temptation of that moment! Oh, that I had fallen at his feet, never again to rise with life! But no! A shadow seemed to come between us, and the pleading eyes of Arthur Salkeld, my betrothed, were in that shadow, and the trial of my strength was over.

'How dare you?' I almost shrieked. 'How dare you torture me like this? You! engaged as you are to one who will shortly stand with you at the holy altar!'

He started back with a moan that almost shook my resolution. 'O Rose, do you not see we are the betrothed in the sight of heaven? I have made a fatal mistake. Help me to prevent that

mistake' growing into a crime; for a crime it would be if I married her.'

'I cannot. I tell you, I dare not!' I gasped. 'Have you not heard? I too am bound irretrievably.'

'I have heard nothing, Rose. What do you mean?'

'I mean that the banns were proclaimed last Sunday between Mr Salkeld and me. Mr Selwyn, my duty is clear. Yours is also. Let this be forgotten between us. Let us part now; and when we meet again, you will look back and regret the words you have spoken this day.'

As I said this he became as pale as death—I could see his face alter in the dusk—and he cried out: 'Never, never! You cannot love *him*—a parson, a preacher!'

The epithets stung me, and with a touch of anger I was made firm. 'You shall not insult him in my presence. Mr Selwyn,' I said, 'let me go;' and I turned down the lane quickly.

But he came by my side again, saying: 'You will not leave me, Rosy! Is there no hope for me?'

I did not hesitate then in my reply. Oh, my cruel, cruel heart, how could you do it? I answered: 'There is no hope!'

He spoke no more—a deep sob seemed to choke some word in his throat. He seized my hand and kissed it almost violently; then with a look of daring recklessness he threw himself upon his horse, and I heard him gallop into the night, but not in the direction of Selwyn Grange. The sounds of his horse's hoofs grew fainter and fainter, and he was *gone*.

How I got back to the vicarage I hardly know; I had but slight recollection until I found myself lying on a sofa with the vicar and Miss Stanhope leaning over me in great distress, for they thought that some serious attack of illness had overtaken me. So it had; for the next day I was unable to leave my bed, and I remembered nothing more for many weeks. And but for that merciful unconsciousness, I had died or lost my reason; for in those weeks news came to Selwyn Grange, such cruel news as would have scorched me like lightning.

When I became convalescent, Miss Stanhope told me all that had happened. The Selwyns never knew that Arthur had been so near to them that night; and a letter was shortly afterwards brought to them to say that he had volunteered into a line regiment under marching orders for Flanders. I saw that letter long afterwards, and one sentence in it went to my heart like the stab of steel: 'My duty is clear.' The very words I had said to him that fated evening!

Poor Effie was frantic with grief.

And then came the rumours of great armies on the continent, all in movement to unite against the fiend Napoleon. Lord Wellington had gone to Brussels to take command of the English forces, and a great battle was talked of as about to take place. But of Arthur Selwyn came not a word more. Then came the time when the news of battle and victory spread throughout England like flame. Triumph, anxiety, grief, and joy shook the hearts of all. One word was in every mouth—Waterloo! Then came the official reports in the newspapers; day after day the columns of news were long lists of wounded and slain. The

brave soldiers of Britain! And one day the blow fell upon Selwyn Grange: 'Lieutenant Arthur P. Selwyn dangerously wounded.'

When I lay in the first stage of my illness I was delirious, and one cry was on my lips day and night: 'Arthur, Arthur, come back to me!' They sent for Arthur Salkeld; and he came and watched by my bedside with the others, for it was thought I was near to death. He staid until the crisis of the brain-fever had passed, and I grew gradually conscious of life and reason. This was just about the time that my loved Arthur, my brave Arthur, fell in the dreadful fight; and I knew nothing of his fate, nor for long after, for I was so weak that no event of the outer world was allowed to reach my ears.

Little did they think at the time of the other great reason for that wise precaution. Ah! little did Arthur Salkeld imagine, while he sat there with my hand in his, and his true heart filled with grief, how deeply in my own heart I had injured him, and how faithless was that wandering cry—the cry that went forth from my delirious lips for the love of another than him.

He did not come near me any more after the dangerous period had passed away from me, thinking that his presence might be hurtful to me; and I, the traitor to him, blessed him for that, for his noble self-denying thoughtfulness.

As I became stronger I reviewed the past, and I saw how grievously I had sinned against Arthur Salkeld. But my heart's desire had been revealed, and the resolve grew with returning health that I would not do him the still greater wrong of becoming his unloving wife. Sooner death than that. My fault should not become a crime. He had not yet left the vicarage, nor would he leave without seeing me, he had said; I had feared this, and like a coward, I shrank from and dreaded the interview.

In the meantime a letter had arrived at Selwyn Grange. Arthur still lived, although badly wounded. A brother-officer had written the news, and he wrote in glowing terms of Arthur's bravery. A detachment of his regiment had stormed some building in the battle-field held by the enemy, and had driven them out; but the building had caught fire, and the dastardly French cavalry had again surrounded the place, cutting down the brave English as they forced their way out. But my Arthur fought over the body of a wounded comrade and defended the colours till help came, just in time to save him from being destroyed by the flames, but not in time to shield off the cruel French bullets. My heroic Arthur!

Mr Salkeld's continued stay at the vicarage made me feel very uneasy in my mind. I could no longer remain in my bedroom, and I dared not meet him after what had passed between myself and Arthur Selwyn. I wrote him a letter, a letter which took me a whole day to write, although it was not a long one. How could I tell him that I declined his love? In what way could I extricate myself from the cruelly false position in which my own blindness and wretched folly had placed me?

It was a terrible task to perform, for well I knew the blow that would fall upon him. But I could not have told him personally; no power in the world could have driven me to that. The strange influence he always exerted over me would alone

have defeated me utterly. So in my letter I told him all: I hid nothing from him; I did not plead ignorance of my love for Arthur Selwyn. I threw myself on his mercy.

He did not immediately reply, not for two days. I was in wretched suspense, but on the third day I received the following letter from him, which ran thus:

'DEAR MISS WILFRID—I could not reply at once to your letter. Your sympathising woman's heart will tell you why I could not. Oh, it is hard to give you up! God knows, before whom my spirit is bowed, how I have suffered these last two days. But, dear Rose, I love you too well to sacrifice your young life to my selfish happiness, or to ask you to do so, knowing now what I do. I shall lose the brightest jewel of my life in losing you; but do not sorrow for me. I know your gentle nature too well not to know that this has cost your kind heart a deep pang. But let not my memory come, cloud-like, between you and your future life, wherever or whatever it may be. For was it not altogether my doing, this sad, sad business! Mine was the fault. I go now into the busy world of a large town; into the midst of many and pressing duties. I shall carry with me the remembrance of this love—for I cannot forget—as I would a sacred memory. And it would be better, much better for both of us never to meet again on earth. God bless and guard you from all harm. Farewell!'

That letter was bathed with my remorseful tears. The noble unselfishness of it, and the tender care for my happiness. Most unhappy I was that sad day. Had I not wronged and slighted the gentlest heart in England? And he, whom I really loved, was lost to me, lost! driven from me by my own words, in that memorable summer twilight.

Thus I lay crying and sorrowing one long night, and at daybreak I arose and walked the room in agony. I was nearly mad. I opened the window, to let in the pure morning air, and leaning there, with the sweet roses curling round me, in my soul I prayed for guidance. I prayed for both the men whom I had brought to misfortune, and for forgiveness for my wrong-doing. As I knelt there, I heard once more the silvery song of the lark, as if a voice of *hope* from heaven spoke to me; and then came the blessed relief of tears, and I arose with patience in my heart.

Shortly afterwards I went with Miss Stanhope to Scarborough, and staid there about two months; and about the end of that time we heard from Effie that her brother had been brought home to the Grange. She wrote but a short letter, and seemed in much grief, for Arthur had not recovered from his wounds. But there was a mystery about what she said that I could not unravel, and apprehension seized me that some new calamity was impending. It made me more and more unhappy; indeed I had never been myself since my illness.

Effie knew nothing of my love for her brother. I knew well that her approval was sure; but I knew also that it would have set her once more against her mother's wishes.

One Saturday night, after we had returned, Miss Stanhope called me to her and said: 'Rose, dear, Arthur Selwyn is to be at church to-morrow. Mr Selwyn told my brother so yesterday.'

'Thank God, that he is so well!' I exclaimed.

'My dearest Rose,' said the good old lady, 'you must be prepared for a great shock, as he is greatly changed. I must tell you, Rose, for I cannot leave you to meet him in ignorance of his great misfortune.'

I gasped for breath.

'You remember the officer's letter about the fighting amongst those horrid flames, dear?' she continued. 'Those flames have injured his eyesight.'

'Dearest Miss Stanhope,' I cried out, 'I know what you would tell me. He is blind! O God, be merciful to me, for I have done this!'

'Not so, my dear: it is His will; and what are we that we should question it?' So the old lady comforted me in my misery. Then I knew the mystery of poor Effie's letter.

Oh, how my love went out to him when I saw him enter the church that day, leaning on his father's arm—my boundless love! O Arthur, Arthur! I waited for him at the door and, before them all, I took his hand in mine. He knew me before I spoke, and a faint flush lighted up his pale haggard face. He said little; but I knew that his heart was unchanged, and changeless.

No consideration could now stay me. I gave myself up to loving him—loving him in secret, for I saw him no more until the next Sunday, and then only for one blissful moment. I was happy.

One day Effie came to me breathless. 'O Rosy, dear,' she said, kissing me, 'I know all. Poor Arthur has told me all about everything. He could bear it no longer; and you must be friends, you two.'

'But Mrs Selwyn, dear Effie?' I said.

Effie's face clouded in an instant. 'She will not interfere between us,' she replied. 'All her schemes for my dear brother are over now. She has scarcely ever spoken a word since Arthur came home, but goes about the house with a dreadful, dreadful look in her face. Poor mamma! She thought she was doing all for the best. And the Cessfords have deserted us; all except Gavin, poor fellow; and he comes as often as he dare, for he is greatly in awe of mamma. And, dear Rosy, it is pitiful to see mamma following Arthur about the rooms and the gardens, but always at a distance, as though she dared not be in his presence.'

The result of this conversation was that I went to Selwyn Grange, and there was Arthur sitting near Effie with a shade over his sightless eyes. Mrs Selwyn sat pale and wretched-looking. Arthur greeted me in his own dear voice, as when we were all happy together; the voice that had had the power to thrill me so. Effie soon contrived that we should have a corner to ourselves. How happy, and yet how sad I felt to sit there near him who was my world, my life! I inquired after his health. I knew not what else to say to him.

'I am recovering strength,' he said; 'but the loss of my eyesight frets me so.'

We talked chiefly, after this, on subjects apart from ourselves; and before long his Christian name, engraven as it was on my heart, fell from my tongue. I could not stay it.

His face flushed instantly with pleasure. 'O Rose, dearest Rose, you forgive me?' he said.

My heart was so full I could scarcely reply: 'Arthur,' I said, 'oh, how can you ever forgive me? Am not I the cause of this?' Then came



my tears—tears of joy and sorrow both ; for I felt that my heart was nigh breaking—breaking for him. But his arms were folded round me, and my head sank on his breast.

'Let us not talk of forgiveness, darling !' he said. 'I am a happy and thankful man to be listening to your dear voice to-day. The thought that I could not ever be anything to you has borne me down more than all ; for I could not cut you out of my heart, hopeless though my love for you seemed. My only pleasure left was always to think of you, for I once thought you loved me a little. Ah ! Rose, I ought to have told you of my love sooner.'

The joy of perfect happiness seemed to possess me as I heard him speak like this ; and my tenderness, so long imprisoned, flowed out to him in the sacred words of love.

It was not long before Effie came back. She stooped and kissed me in silence. Arthur smiled and held out his hands to her, and she kissed him again and again. I heard a convulsive smothered sob somewhere in the room, and looking round, I saw Mrs Selwyn going out at the door. My heart bled for her, and I thought, here was my duty of reparation to Arthur—to heal the broken love between these two—to close the dreadful gulf which had grown betwixt mother and son.

One day I addressed Arthur on this subject ; but from what he said I feared it would be a hopeless task. Mother and son could never be to each other what they once were.

Day after day and month after month passed away like a dream. Arthur and I met every day with the free consent of everybody, for the lessons of Fate had told heavily on the austere exclusiveness of Mrs Selwyn. She and I were friends for Arthur's sake. Even Arthur and she had become reconciled. It came about on the day of his father's funeral ; for another affliction had fallen upon Selwyn Grange. Mr Selwyn—to whom everything except his own pleasure was as nothing—was dead. Let his memory rest. His death was sudden and awful—the old sad story of death in the hunting-field.

After that sad event, the affairs of the ruined estate were finally wound up, and a few hundreds a year were left out of the wreck for Arthur and his mother. They sold the land, and moved to a smaller house on the estate of Gavin Cessford, whose wife Effie had become a few months before. Their wooing was a strange one. Effie often told me, in her light, joyous way, that all the talk was hers and all the sighing his. She had refused him many times, but his faithful love won her at last. Dear Effie ! She has a little Gavin now, and a little Rosebud also.

Two years passed away. I need not write in detail of their quiet uneventful happiness ; but at the end of those two years I was Arthur Selwyn's wife. We lived, his mother and ourselves, together, for Mrs Selwyn could now scarcely endure to have him out of her sight.

Arthur ! Beloved ! Two lonely broken-hearted women are living now in the sad dark house of mourning, that was once glad with our wedding-day—alone, and sorrowfully awaiting the end. More than mother and daughter are they, for thy grave unites them. One happy, happy year of health was vouchsafed to my dear husband after our marriage, and then surely and slowly he faded

away from us. Oh, the unutterable agony of those months to me—his six months of torturing illness ! The gleams of hope that would one day visit us, to be extinguished the next. How I lived through it I cannot tell. I think his noble example strengthened me to bear and to suffer as he did—in silence. But the inevitable day came, and in these arms he died.

My Arthur ! May I be forgiven that in that dark hour my spirit rebelled against the decree of Heaven. May God forgive my erring soul ! And may He, in His pardoning mercy and loving-kindness, open soon to my wearied eyes the gates of Life—the Life which is eternal ! J. C.

#### STOCK-RAISING IN THE FAR WEST.

THE continually increasing demand for fresh beef has led, as is generally known, to expedients for bringing live oxen from the United States and Canada. It cannot yet be said that this import trade has attained large dimensions, but that it may some day be eminently successful is far from improbable. In the meanwhile, the rearing of stock in the Far West for this kind of trade is being prosecuted with vigour, and is said to offer extensive scope for enterprise. A settler on the eastern slopes of the Rocky Mountains sends us some particulars regarding stock-raising in that quarter, which we give pretty much in his own language.

'The cattle business in the western part of the United States offers great opportunities of well-doing for energetic young men with a few hundred pounds in their pockets, and who do not mind leading a somewhat rough life in a wild uninclosed country. Though rough, the life is not unenjoyable. The rounding in, herding, and driving of cattle ; the exuberant spirits and feeling of thorough freedom, can nowhere be enjoyed to such perfection as when swiftly coursing on horseback over the great stretches of the boundless plains. In addition to this, the profits of the trade are large, and with a fair amount of good fortune, capital goes on accumulating year after year, almost beyond the owner's ability to reckon. Of course there is luck in this as in all other occupations, and a man starting with a small capital might, if not careful, lose the best part of his herd by stampede or disease, and so be swamped at the outset ; but where a strict watch has been kept, and the eye of the owner always over his stock, in no instance have I known a failure to acquire success and ultimate wealth.

'The great cattle-ranges of North America stretch from Montana on the north to the Rio Grande, the southern boundary of Texas, on the south, including Western Nebraska, Kansas, and Dakota, and Eastern Wyoming, Colorado, and Montana. With the exception of Texas, where the land is mostly well fitted for agriculture, and which will be covered before many years with a network of railways, and consequently inclosed farms, these other states and territories are specially adapted by nature as the home of the stock-raiser. Here the conditions of situation, climate, and soil are such as to prevent the development of agriculture, manufactures, and commerce ; while the arid plains and successive ranges of mountains will render these regions the future natural home of the herdsman and shepherd.

'At present, undoubtedly Texas is the great cattle state of the country, but how long it will remain so is merely a question of time. Already has the extension of crop-raising settlements increased the value of land and restricted free pasture; and eventually the stock-raising interests will be driven to the northern buffalo grass region, which Nature seems to have specially reserved for this purpose.

'Since the rebellion, through causes arising from the war, the immigration into Texas of white and coloured people from the South has been great, and is rapidly increasing; and they have not been slow to find out the high agricultural qualities of the land, and turn the same to good account. Thus the eyes of the public in all parts of the United States have been attracted to this remote corner of the country.

'The experience of stock-growers from all sections for the last few years has proved that the pure bracing air of these more northern territories east of, and adjacent to the slope of the Rocky Mountains; the peculiar virtue of the sweet, nutritious buffalo grass, their equable climate, and the pure water of the mountain streams—furnish the conditions of perfect animal health and vigour of constitution for growing stock, not enjoyed by any other portion of this continent. Intelligent investigators are aware of this fact, although the masses do not seem to realise it as yet.

'The climate has no extreme of heat and cold, and the atmosphere is pure and bracing, the mean annual thermometer being at Denver, the centre of the line of this region, about fifty degrees, and the annual rainfall about thirteen inches.

'The rainy season is in May and June, when vegetation grows with great luxuriance; and when the rains cease, the grasses gradually dry on the ground, and become perfectly cured, uncut hay, and remain in this state all winter. It makes far better feed than cut hay, and all the expense of cutting and stacking is saved. On an average, about two feet of snow falls in the year, a little at a time; and cattle and sheep can graze, with few exceptions, both winter and summer. A small provision for the few severe days of an unusual snowfall is, however, generally made by the provident.

'A great part of all these states and territories consists of what is here called wild land, that is, not owned by any private individuals. The greater portion belongs to the government, or has been granted by it to the railroad companies, so many miles on each side of their roads. Land can therefore be purchased on long time from the railroad companies, and a sound title given for the same; or it can be acquired under the Homestead law from government, which permits every head of a family, or male over twenty-one years of age, who is a citizen of the United States, or has declared his intention to become one, to pre-empt or enter upon a homestead of one hundred and sixty acres in any part of the public lands, for which a patent is issued after five years' residence on the same, and the payment of one dollar twenty-five cents per acre. With this centre of operations upon which to build his home and make his improvements, the adjacent wild land is all open as a range and feeding-ground for the settler's stock. The cost of raising a three-year-old steer out west is calculated at five dollars, or about twenty

shillings sterling, including all expenses, which is certainly a small sum, all things considered.

'The whole of these pasture-grounds on the eastern slope of the Rocky Mountains have the advantage of transportation near at hand by either the Union Pacific or Kansas Pacific railways; which Texas, where cattle must be driven seven hundred miles for shipment, has not. At present the local demand, owing to the thousands of men who are pouring into the newly discovered mining districts, is even greater than the supply, and producers can find a home market for all the cattle they can furnish. For the benefit of those who have ever thought of embarking in stock-raising in the United States, and who desire to know a little of the new Eden before bending their hopeful steps that way, I have offered the foregoing information; and to it I will add a little advice, which from experience I am able to give, and which they would do well to follow.

'During four years that I spent in Uruguay and the Argentine Republic in South America, each succeeding steamer of the Landport and Holt line from Liverpool brought out to the river La Plata a crowd of young men from the old country— younger sons, retired officers of the army and navy, and others with a few hundred pounds capital, bent on making their fortunes at sheep-raising. We used to call them "heaven-born sheep-farmers," for the majority could not tell a ewe from a wether. Some few were successful, as they had the energy, grit, and good sense to be so anywhere; but more went home again empty-handed. Now their fault was this: they would come as far as Monte Video or Buenos Ayres, where they put up at the best hotel, and remained there a month or so playing pool, billiards, &c., with the mistaken idea that they were seeing what the country was like; or else they were making up their minds where next to go, what to do, and how to do it. They had no definite plan mapped out when leaving home, and so they wandered in an aimless way about the country prospecting, until their capital was so shrunk as to be well nigh useless; instead of going to work at the first chance they got as a working shepherd, and so learning a little of the business they had come to make their fortunes in, and of which they were perfectly ignorant.

'Whoever comes out to our western country may expect to have plenty of hard work to do, and turn into bed many a night thoroughly tired out, and find very little romance about it at first; but hard work is the only honest and manly road to success here. The less money a man brings with him the better, for he will be more likely to get to work at once, and learn the details of his business. Whatever capital he has to invest should be left behind him, until he has had at least six months' experience as a hired herder on some large cattle ranch, and then he won't be tempted to invest money in fancied opportunities until his self-imposed term for acquiring instruction and experience shall have expired. He must have made up his mind to begin thus at the foot of the ladder, or he will not succeed; and he must expect to find some pretty rough characters among his new comrades, with whom he cannot put on any airs, or endeavour to assert any superiority, for though, as a rule, open-hearted, generous, and true as steel, they are quick to take offence, and the quickest man to draw his Colt's revolver settles the

difference in his own favour. However, as long as a man minds his own business, keeps sober, and is courteous and obliging to those around him, he need not fear but that he will find the settlers to be good fellows, and always ready to give him a helping hand, and teach him what he wants to know. He will meet all grades of society, and many educated men among them, who have dropped into their ranks through the love of wandering innate in the American, under the impulse of the well-known advice of the late Horace Greeley, "Go west, young man."

The writer concludes by recommending young men bent on trying their luck in the West, not to trouble themselves with letters of introduction from Emigration Agency Companies and free information offices in England to 'influential people' in the United States or Canada, though he sees no reason against purchasing through tickets from such agents, especially as they are to be had at a reduced price. Letters of introduction from such companies are, says our writer, 'a snare and a delusion.' Nor should they bring more luggage than will fill a portmanteau, and by all means not loiter in towns by the way. Considering the unsettled state of society, we would hesitate to follow up the advices of the writer, further than to say that the young and adventurous with a taste for cattle-raising might do worse than try their fortune in the quarter of the world here recommended. Of one thing there can be no doubt. The growing demand for fresh meat not only in the Eastern States of the Union, but in England, gives promise of a lucrative system of stock-raising in the Far West.

#### THE MONTH:

##### SCIENCE AND ARTS.

OUR scientific and learned Societies having got through the first weeks of their session, are preparing during the Christmas holidays for a fresh start in the New Year. Among subjects brought before the Royal Society were 'Experimental Contributions to the Theory of the Radiometer,' by Mr Crookes, in which the peculiarities of the remarkable instrument are explained more clearly than before, and a way is opened for further investigation. We have already described the radiometer in these pages; hence for the present, it will suffice to state that by modifications of the form and material of the rotating discs, very curious effects are produced; that the mill may be made to stand still by improved exhaustion of the glass case, and that in a perfect vacuum (if such could be produced) the beam of the torsion balance 'would be in perpetual motion.' There will be more to explain on this subject before the session is over.

A paper by Mr G. H. Darwin, son of the eminent philosopher and naturalist, discusses the question of the fixity or mobility of the earth's axis of rotation, and the possibility of variations in the obliquity of the ecliptic—a question which has of late attracted much attention. The sum of the argument is, that if the earth be quite rigid, no redistribution of matter in new continents could ever cause the deviation of the Pole from its primitive position to exceed the limit of about three degrees. But if it be true that the earth

readjusts itself periodically to a new form of equilibrium, then there is a possibility of a cumulative effect; and the Pole may have wandered some ten or fifteen degrees from its primitive position, or have made a smaller excursion and returned to near its old place.

With regard to the obliquity of the ecliptic, no such cumulation is possible. As Mr Darwin remarks, even gigantic polar ice-caps during the glacial period could not have altered the position of the Arctic Circle by so much as three inches. Thus the obliquity of the ecliptic has remained sensibly constant throughout geological history.

How to account for the presence of fossils of tropical animals and plants in the polar regions, is still a difficulty. A recent suggestion by way of overcoming it is, that in the primeval ages the bulk of our atmosphere was much greater than at present, whereby the warmth of the earth would be preserved and extended into regions which are now subject to perennial frost.

The anniversary meetings of the Royal Society may be regarded as records of the progress of science, for the President makes known what has been done during the year, and in presenting the medals, sets forth the reasons for the several awards. Thus at the last anniversary, the Copley medal was given to Claude Bernard, a famous French physiologist, for his discovery of the sugar-making function of the liver, which opened entirely new views of the animal economy, and helped to advance the science of physiology. Formerly it was thought that the liver had nothing to do but secrete bile; now we know that chemical actions of different nature are being carried on at the same time with such results as to make of the liver, as has been happily said, 'the sweetener of life.' The study of these actions ranks among the most interesting of physiological inquiries.

By means of the spectroscope our knowledge of cosmical science has been greatly extended; and another Frenchman, M. Janssen, was singled out for the Rumford medal, for his many contributions to spectroscopy—a science as yet in its infancy, but full of promise. He was in India observing the eclipse of 1868, when, with a flash of genius, it occurred to him that an eclipse is not necessary to enable astronomers to take observations of solar phenomena, but that by a proper arrangement of the spectroscope the ragged edge of the sun—which presents such important phenomena—can be observed on any clear day.

A Royal medal was given to Mr William Froude, F.R.S., for his theoretical and experimental researches on the behaviour of ships. These researches were carried on by means of excellent instruments of his own invention, with which he measured the oscillations or 'rolling' of ships. In a country which depends so much on its navy as England, it is of the highest importance to know all that can be known about ships and their behaviour, and on questions of form, of resistance, or propulsion, Mr Froude's mechanical skill and theoretical acuteness place him in the foremost rank as an authority.

In her voyage round the world of three years and a half, the *Challenger* sailed nearly sixty-nine thousand miles; made hundreds of soundings, ascertained the nature of the sea-bottom over enormous areas, collected thousands of animals and plants from land and sea, made long series of



observations on temperature and currents, discovered facts which throw light on important geological questions, and increased our knowledge of the physics and natural history of the globe to a surprising extent. Sir Wyville Thomson, F.R.S., was Director of the scientific staff by whom all this work was accomplished; and by awarding him one of the two Royal medals for the present year, the Royal Society have expressed their opinion of his merits. Many readers will be glad to know that measures are in progress for publishing the history and results of this memorable voyage.

A German chemist has made a long series of careful experiments to ascertain the quantity of carbonic acid given off in respiration and perspiration by different animals. From among his most important conclusions printed in the *Journal* of the Chemical Society, we select a few which appear worth wider notice. In proportion to their weight, the largest quantity of carbonic acid is given off by birds—mammals come next—and worms, amphibia, fishes and snails form another group in which the excretion of carbonic acid is much smaller: of these, worms give off the most, and snails the least. Those that live in water give off more carbonic acid to the air than they do to the water; and young animals more than old ones. Experiments with coloured light shew that under the green and yellow more carbonic acid is excreted than in ordinary daylight; and on comparing light and darkness, it was found that much less carbonic acid is given off during the night than during the day. In coloured light the milk-white and blue rays come next to the green and yellow in activity; and the red and violet are the least active.

The same *Journal* publishes a statement concerning the action of sea-water on lead: 'Freshly cut strips of lead were kept in a bottle of sea-water for four days, the bottle being frequently shaken. No trace of lead could be detected in the water, but the bright surface of the strips was coated with an insoluble lead compound. Hence lead pipes may be used in marine aquaria without any fear of injury to their inhabitants.'

A series of lectures on the Laws of Health is in course of delivery at the Society of Arts, elucidated by clever experiments. The lecture on Digestion was especially remarkable, for the process of digestion was shewn in glass vessels by chemical means which a few years ago would have been thought impossible. Solid meat and chopped meat were dissolved, before the eyes of the audience to exemplify the action of the gastric juice, and the necessity for and advantage of mastication.

In the state of Durango, Mexico, about nine thousand feet above the sea, there is a remarkable tin-bearing district more than twenty miles in extent, concerning which a few particulars have been made public. By sinking of shafts it has been ascertained that stream tin and ore abound over the whole district. The ore is found loose in the veins in irregular rounded masses from the size of a pin's head to that of a man's head; and the supply is so great that 'metallic tin can be produced at a cost of two cents a pound.' There are six hundred veins already known, and more than three hundred drifts of stream tin. A visitor to the spot is of opinion that the tin ore is still forming. A portion of a vein was left

standing in 1864. On examining the place in a subsequent visit in 1870, he found that 'new films or layers of cassiterite had been deposited, and in some places noticed that peculiar variety known as toad's-eye tin, which he believes had formed during his absence.'

It is not difficult to believe that digging has never been held in such esteem as in the present century, for to say nothing of the tons of gold and silver and of other minerals which have been dug out of the earth within the past fifty years, many chapters of ancient history have been brought to light by digging in various parts of the world, and our knowledge of the arts and architecture of bygone ages has been increased. Nineveh and Babylon have been made to reappear and give up their treasures. Travellers to Jerusalem may now see portions of the city as they stood in the days of David and Solomon: grand historical buildings of the Rome of the emperors have been disinterred; and at Troy, Dr Schliemann has discovered cities more ancient than the Ilium described by Homer. Since then, while digging at Argos he found the tombs of Agamemnon and other ancient heroes, containing bones, utensils, golden sceptres, and jewelry of matchless workmanship. Discoveries not less important have been made by General di Cesnola in Cyprus: sculptures by thousands in marble and alabaster; numerous gems, ornaments in bronze, terra-cotta; rings and armlets of massive gold; more than two hundred delicately worked articles in silver, at least two thousand years old; and the official seal of Thothmosis III. king of Egypt, who conquered Cyprus in the days when his subjects were building the third and fourth Pyramids. This seal is perfect, and is described as 'a finely cut stone, pierced and mounted in gold, with its ancient movable handle of silver.' Among all these what admirable specimens there will be for modern museums! And more may be expected, for the researches will be continued. In the progress of his work the General has identified the sites of seventeen ancient cities, one of which is Kitium, the Chittim of the Bible. And last we hear of the discovery of ancient towns and golden ornaments in the wild sandy Desert of Gobi in Eastern Turkestan, an account of which was recently read at a meeting of the Royal Geographical Society.

To these particulars we may add the interesting fact, that in the series of translations from ancient Egyptian papyri preserved in the British Museum, one has just been published which shews that much intercourse—not always peaceful—prevailed between Egypt and the islands of the Mediterranean.

The last number of the *Journal* of the Bombay Branch of the Royal Asiatic Society contains an article on the 'Beliefs and Usages among the Pre-Islamic Arabs,' which is well worth reading, for there is much in the history of those early days analogous to Biblical ancient history. They appear to have in fact much in common, and the Scripture names are recognisable in their Arab dress. The subject is full of interest, and will probably have more light thrown upon it if ever the 'great ruins of Yemen' should be excavated. It will perhaps surprise some readers to learn that much of what is called Mohammedanism existed before Mohammed. He found usages and beliefs in full force, and adopted them; as, for example, the pilgrimage

to Mecca, the kissing of the black stone; the running between Cafa and Merwah, and the sacrificing of cattle.

The year just closing will be memorable for many forms of intellectual activity, for multifarious discussion on matters appertaining to education, for advocacy of endowment of research, and for decay of the feeling that knowledge is worth acquiring for its own sake alone. For example, we have an archbishop delivering prizes to successful students at Manchester, and telling them that, by far too much of our public-school education is taken up with Latin and Greek, and a very little of the science of mathematics; that the ancient classics as a whole are by no means the splendid models of form and taste which they had been held to be: and that modern German, French, and English offer resources for acquiring knowledge, for the building up of a refined form, and an elevated style, in a higher degree than the languages of antiquity. The anatomy of a modern language is a study of exhaustless interest, and as much intellectual acuteness may be developed in construing Shakspeare as in construing Horace. Then, again, we have the President of the Epidemiological Society endeavouring to remove popular error by calling on an audience of the medical profession to abandon 'semi-mystical speculation,' and to look on epidemic in its true light. 'The use of the word epidemic itself,' he said, 'was probably a necessity of medicine; but it should be used only in its common and natural sense to signify common to or affecting a whole people, or a great number in a community; and all mystical notions with regard to it should be wholly laid aside. It is the disease that constitutes the epidemic, and not the epidemic the disease.'

With regard to Messrs Sharp and Smith's apparatus for converting sea-water into fresh, noticed in this *Journal* for November 4, and which we believe was the invention of Mr A. P. Sharp of Dublin, we have to inform our readers that further information may be had by applying to the manufacturers at 36 West Ferry Road, Millwall, London; at 3 York Buildings, Dale Street, Liverpool; or at 21 Eden Quay, Dublin.

#### THE ROBIN.

ERE Dawn descends enrobed in silvery light,  
When hudden gray enshrouds the garden walls,  
And phantom trees are clothed in grizzly white,  
And Silence quivers as the dead leaf falls,  
Invisibly thou hauntest the spectral gloom,  
Trilling lone matin-songs o'er Summer's tomb,  
Elegiac, as if the dawn of doom  
Premonitory toned thy canticles.

Hail! winged prophet of the stark white sleep;  
As Spring, the cuckoo greets, thy bode we hear  
Of Winter, though thy confreres silence keep.  
From dawn till eve, thou wait'st the drooping year.  
And hark!—such cadences were affectation,  
Did human voice intone such lamentation;  
Now; more thou savourest of resignation,  
Seeing Nature's face each dawn more pinched and drear.

Brave nursery pet of legendary lore  
And greenwood fame, thy name's beloved, thy dun  
Red-breasted coat hath shewn since times of yore  
A hero's heirloom, marked with victory our.  
But Robin, why so piteous a repiner?  
The common lot! No 'wood-note wild' is finer  
On Winter's verge, than thy delicious minor:  
Be Contemplation's soul in unison.

Ah, ah! an elfin flight; what tricky sprite  
Possesses thee to cut so quaint a caper?  
Did hapless emmet tempt thy appetite  
To strike with mandible of lethal taper?  
Or did the flattering sunbeams nerve thy wing,  
And touch thy breast, with amours of the Spring?  
And turn thy head with vain imagining  
Of plumes *à*er bright, and spirits *always* happier!

Well, take thee all in all, thy fame and thee,  
Of winged guests thou art the versatile,  
All Summer long thy gallant lance is free,  
And then in Autumn-shrift thou dost beguile.  
Hail! welcome to our Yule-tide cheer;  
Welcome as praise to Contemplation's ear,  
Lonely as herald of the vernal year—  
And when all stark lies Nature dim and drear,  
May Vesta's bounty cheer thy heart awhile.

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#### THE LAST OF THE HADDONS.

By MRS NEWMAN,  
Author of *Too Late*, &c.

(Would Mr Spooner kindly communicate his address to the Editor?)

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